SIX JAPANESE SPECIES OF THE GENERA *OCTONOBA* AND *PHILOPONELLA* (ARANEAE: ULOBORIDAE)

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Synopsis

YOSHIDA, Hajime (Entomol. Lab., Col. Agr., Univ. Osaka Pref., Sakai) : Six Japanese species of the genera *Octonoba* and *Philoponella* (Araneae: Uloboridae). Acta arachnol,, **29**: 57-64 (1980.)

The six Japanese species of the genus *Uloborus* are transferred to the other genera related to *Uloborus: sinensis* SIMON, *varians* BÖSENBERG et STRAND, *incognitus* DÖNITZ et STRAND, *yesoensis* (SAITO) and *sybotides* BÖSENBERG et STRAND to *Octonoba; prominens* BÖSENBERG et STRAND to *Philoponella*. *Uloborus tokyoensis* KISHIDA is synonymized with *Octonoba sinensis* (SIMON). A key to the genera of the subfamily Uloborinae is given.

Eight species of the genus *Uloborus* are known from Japan. These are: *geniculatus* (OLIVIER), *incognitus* DÖNITZ et STRAND, *prominens* BÖSENBERG et STRAND, *sybotides* BÖSENBERG et STRAND, *tokyoensis* KISHIDA, *varians* BÖSENBERG et STRAND, *walckenaerius* LATREILLE and *yesoensis* (SAITO). The genus *Uloborus* (s. lat.) contained many species which possess various structures. However, a description of split genera was published by LEHTINEN in 1967, and a revision of the family Uloboridae was reported by OPELL in 1979. According to the generic definition of Uloboridae given by OPELL, seven of them should be transferred to the other genera: *geniculatus* to *Zosis; tokyoensis, varians, incognitus, yesoensis* and *sybotides* to *Octonoba;* and *prominens* to *Philoponella*. *Uloborus, Zosis, Octonoba* and *Philoponella* are recognized as generic status on account of the palpal organs given by the key, these belonging to the subfamily Uloborinae.

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It is well-known that these spiders spin complete orb-webs in the horizonatal position and often embelish them with distinctive silken ribbons called stabilimenta. In this paper, six species newly transferred from *Uloborus* to the split genera, *Octonoba* and *Philoponella*, are reported. In addition, a key to the genera of the subfamily Uloborinae is given.

Before going further, I wish to express my hearty thanks to Prof. S. ITO and Dr. S. MORIUTI for their continuous guidance. Thanks are also due to Prof. T. YAGINUMA for his kind advice and loan of material, and to Prof. Y. NISHIKAWA and Mr. H. TANAKA for material used.

Key to Japanese genera of Uloborinae

1. Palpus with a flat median apophysis bulb and a broad concave or rolled median apophysis spur .... *Octonoba*
— Palpus with a large, dome-shaped median apophysis bulb and a small, claw-shaped median apophysis spur 2
2. Palpus without a conductor and with a broad, flat tegular spur serving as an embolus guide .... *Zosis*
— Palpus with a conductor and without a tegular spur 3
3. Palpus with a conductor spike .... *Philoponella*
— Palpus without a conductor spike .... *Uloborus*

Octonoba OPELL 1979

Carapace broadly oval, evenly convex. Abdomen elevated in basal third. Carapace brown, with a thin median light stripe and a pair of light, marginal, longitudinal stripes. Palpal organ: median apophysis spur concave or rolled inwardly; median apophysis bulb reduced; embolus originating from before apex and narrowed to thin spine largely encirculing; small tegular spur present in some species. Epigynum with a pair of projections or an anteromedian lobe.

Octonoba sinensis (SIMON) n. comb.

(Figs. 3, 4)

Uloborus sinensis SIMON, 1880, Ann. Soc. ent. Fr. (5)**10**: 111, pl. 3, figs. 8, 9.

Uloborus tokyoensis KISHIDA, 1927, In UCHIDA et al., Dobutsu Zukan: 960.—YUHARA, 1931, Kumo [no Kenkyu: 66, fig. 7.—YAGINUMA, 1960, Spid. Jap.

Col.: 25, pl. 4, fig. 16.—YAGINUMA, 1962, Spid. Fauna Jap.: 9.—YAGINUMA, 1970, Bull. natn. Sci. Mus., Tokyo **13**: 644.—YAGINUMA, 1977, Acta arachnol. **27** (Spec. no.): 373.—PAIK, 1978, In PAK, Illust. flora fauna Korea **21**: 196, fig. 81. NEW SYNONYMY

Uloborus octonarius MUMA, 1945, Proc. biol. Soc. Wash. **58**: 91, figs. 1, 2.—MUMA & GERTSCH, 1964, Amer. Mus. Novitates **2196**: 38, figs. 35, 87-90.

Zosis sinensis: LEHTINEN, 1967, Ann. zool. Fenn. **4**: 277, figs. 488, 499.

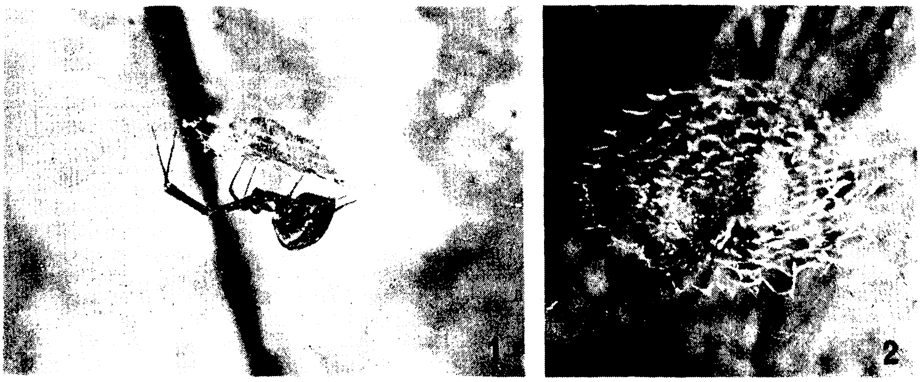
Octonoba octonaria: OPELL, 1979, Bull. Mus. comp. Zool. **148**: 512, pl. 7-D.

Judging from the original. description and the redescription given by LEHTINEN (1967), I am much inclined to think that *tokyoensis* (KISHIDA) is a junior synonym of *sinensis* (SIMON). Although OPELL (1979) treated *sinensis* and *octonaria* (MUMA) as good species, LEHTINEN (1967) recoginized them to be conspecific. I agree with LEHTINEN in his treatment. I take this opportunity of stating that *sinensis* is transferred from *Uloborus* to *Octonoba*. This species also occurs in North America, the distribution being probably introduced from Japan or China.

Octonoba varians (BÖSENBERG et STRAND) n. comb.

(Figs. 1, 2, 5, 6)

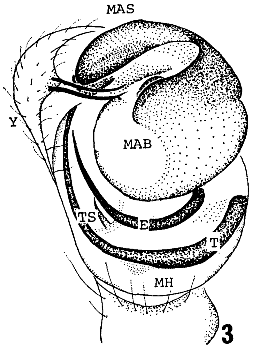
Uloborus varians BÖSENBERG & STRAND, 1906, Abh. senck. naturf. Ges. **30**: 102, pl. 3, fig. 1, pl. 15, fig. 429.—YAGINUMA, 1960, Spid. Jap. Col.: 25, pl. 4, fig. 14.—YAGINUMA, 1962, Spid. Fauna Jap.: 9.—YAGINUMA, 1970, Bull. natn.



Figs. 1, 2. *Octonoba varians* (BÖSENBERG et STRAND), female and its web. 1. Lateral view. 2. Dorsal view.

Sci. Mus., Tokyo **13**: 644.—YAGINUMA, 1977, Acta arachnol. **27** (Spec. no.): 373.—PAIK, 1978, In PAK, Illust. flora fauna Korea **21**: 198, fig. 82.

Uloborus defectus BÖSENBERG & STRAND, 1906, Abh. senck. naturf. Ges. **30**: 103, pl. 15, fig. 427.—YAGINUMA, 1962, Spid. Fauna Jap.: 9.



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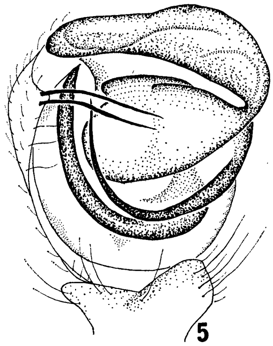

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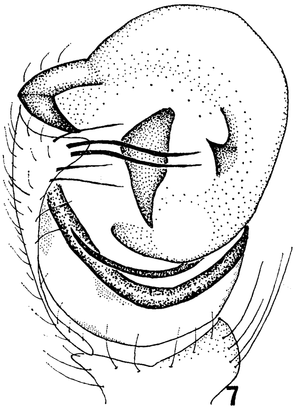

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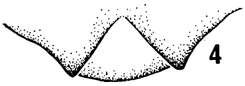

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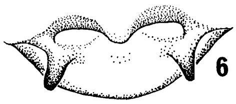

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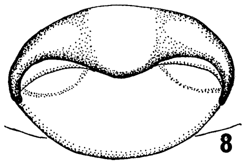

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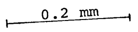

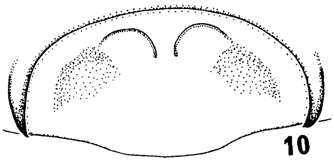

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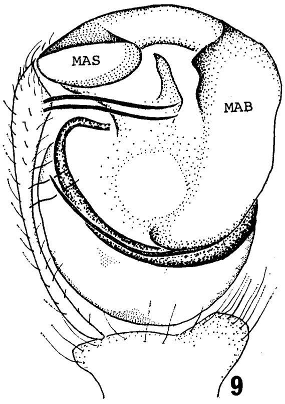

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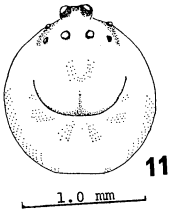

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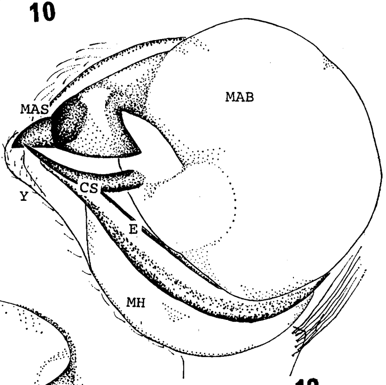

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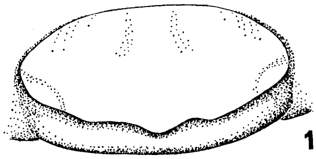

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Uloborus dubius Bösenberg & Strand, 1906, Abh. senck. naturf. Ges. **30**: 105, pl. 15, fig. 430.—Saito, 1959, Spid. Book Illust. Col.: 80, pl. 9, fig. 86.

Zosis varians: Lehtinen, 1967, Ann. zool. Fenn. **4**: 277.

Carapace with a median and two marginal light stripes. Abdomen highest at basal third which bears a hump at middle. Palpal organ: median apophysis spur rolled inwardly; tegular spur absent. Epigynal openings situated inside projections.

Recorded by many workers from Hokkaido, but most of them may be misidentified with *O. yesoensis*. Not occurs in the Ryukyus, though it was recorded from the islands.

Two specific names were synonymized with *varians*: *dubius* by Yaginuma in 1960 and *defectus* by Lehtinen in 1967. I agree with their treatment.

Octonoba incognitus (Dönitz et Strand) n. comb.

Uloborus incognitus Dönotz & Strand, 1906, In Bösenberg & Strand, Abh. senck. naturf. Ges. **30**: 374, pl. 3, fig. 17.—Yaginuma, 1962, Spid. Fauna Jap.: 9.—Yaginuma, 1670, Bull. natn. Sci. Mus., Tokyo **13**: 644.—Yaginuma, 1977, Acta arachnol. **27** (Spec. no.): 373.

This species was originally described by Dönitz & Strand from one immature female and two mature males, all of which were taken at Saga, Japan. The detailed description was given of the immature female, but that of the male was not, and therefore I have been unable to prove the identity. This species is nearest to, if not synonymous with, *O. varians*.

Figs. 3, 4. *Octonoba sinensis* (Simon). 3. Male palpus, ventral view. 4. Female epigynum, ventral view.

Figs. 5, 6. *O. varians* (Bösenberg et Strand). 5. Male palpus, ventral view. 6. Female epigynum, ventral view.

Figs. 7, 8. *O. yesoensis* (Saito). 7. Male palpus, ventral view. 8. Female epigynum, ventral view.

Figs. 9, 10. *O. sybotides* (Bösenberg et Strand). 9. Male palpus, ventral view. 10. Female epigynum, ventral view.

Figs. 11-13. *Philoponella* sp. from Iriomote Island. 11. Male carapace, dorsal view. 12. Male palpus, ventral view. 13. Female epigynum, ventral view.

Abbreviations; MAS: median apophysis spur. MAB: median apophysis bulb. CS: conductor spike. E: embolus. T: tegulum. TS: tegular spur. MH: middle hematodocha. Y: cymbium.

Octonoba yesoensis (SAITO) n. comb.

(Figs. 7, 8)

Argyrodes yesoensis SAITO, 1934, Jour. Fac. Agr., Hokkaido imp. Univ. **33**: 303, pl. 12, fig. 15, pl. 14, fig. 54.—SAITO, 1941, In OKADA et al., Fauna Nip. **9**(2-2): 174, fig. 198.—SAITO, 1959, Spid. Book Illust. Col.: 69, pl. 7, fig. 61 a-c pl. 8, fig. 61 d, e.

Uloborus yesoensis: YAGINUMA, 1962, Spid. Fauna Jap.: 9.—YAGINUMA, 1970, Bull. natn. Sci. Mus., Tokyo **13**: 644.—YAGINUMA, 1977, Acta arachnol. **27** (Spec. no.): 373.

Zosis yesoensis: LEHTINEN, 1967, Ann. zool. Fenn. **4**: 277.

Palpal organ: median apophysis bulb with a large, triangular, dark median sclerite; median apophysis spur small. Epigynum with an anteromedian lobe. Abdomen nearly as high as long.

This species is common in Hokkaido and high altitudinal region of Honshu, though the records are scarce.

Octonoba sybotides (BÖSENBERG et STRAND) n. comb.

(Figs. 9, 10)

Uloborus sybotides BÖSENBERG & STRAND, 1906, Abh. senck. naturf. Ges. **30**: 104, pl. 15, figs. 428, 431.—YAGINUMA, 1960, Spid. Jap.Col.: 25, pl. 4, fig. 15. —YAGINUMA, 1962, Spid. Fauna Jap.: 9.—YAGINUMA, 1970, Bull. natn. Sci. Mus., Tokyo **13**: 644.—YAGINUMA, 1977, Acta arachnol. **27** (Spec. no.): 373. —PAIK, 1978, In PAK, Illust. flora fauna Korea **21**: 195, fig. 80.

Zosis sybotides LEHTINEN, 1967, Ann. zool. Fenn. **4**: 277.

Palpal organ: median apophysis spur large and concave, the tip being curved towards insides; median apophysis bulb with a spine-like sclerite. Epigynal projection originated from posterolateral margin; openings situated in anteromedian part.

Recorded from Hokkaido, but it seems to be incorrect identification; also recorded from the Ryukyus, but it was due to the misidentification.

Philoponella MELLO-LEITÃO 1917

Cephalic region rising slightly from a narrow transverse or semicircular thoracic groove to ocular area. AME on a low, anteriorly directed mound, more prominent in males than in females. Palpal organ: a grooved conductor blade arising near the proximal, ventral border of the median apophysis bulb and continuing as a narrow, heavily sclerotized conductor spike into the proximity of median apophysis spur. Epigynum well sclerotized, with a large deep, central atrium bordered by precipitous anterior and posterior rims.

Remarks: *Philoponella* was proposed by Mello-Leitão (1917) as a subgenus of *Uloborus*, but Lehtinen (1967) raised it to the generic status.

In Japan, this genus has been represented by one species *prominens*, no specimens of it are available for the present study. I have some specimens from Iriomote Island but I cannot determine whether this and *prominens* are conspecific. The taxonomically important characters of the Iriomote specimen are illustrated in Figs. 11–13.

Philoponella prominens (Bösenberg et Strand) n. comb.

Uloborus prominens Bösenberg & Strand, 1906, Abh. senck. naturf. Ges. **30**: 106, pl. 16, fig. 410.—Strand, 1907, Abh. naturf. Ges. Görlitz. **25**: 1.—Yaginuma, 1962, Spid. Fauna Jap.: 9.—Yaginuma, 1970, Bull. natn. Sci. Mus., Tokyo **13**: 644.—Yaginuma, 1977, Acta arachnol. **27** (Spec. no.): 373.—Paik, 1978, In Pak, Illust. flora fauna Korea **21**: 193, fig. 79.

This species was originally described from one male and many female specimens taken at Yokohama, Japan. Unfortunately I have seen no specimens of this species. Judging from the original description, the characteristics of cephalic region, AME, epigynal atrium and conductor spike clearly show that this species belongs to *Philoponella*.

摘要

吉田　哉（大阪府立大学農学部農業昆虫学教室）：日本産 *Octonoba* 属および *Philoponella* 属の6種。

日本産のウズグモ属のクモとして8種が一応認められている。最近，USA の Opell (1979) はウズグモ科の再検討をおこなった。筆者は Opell の属の扱いを妥当と認め，*Uloborus* ウズグモ属とされていた8種に対して検討を加えた。特に触肢の構造から明らかな区別が確認できる。*geniculatus* (Olivier) ミナミウズグモはすでに Lehtinen (1967) により *Zosis* ミナミウズグモ属（新称）に転属されているが，さらに6種は別の属に転属すべきである。5種，*sinensis* Simon トウキョウウズグモ，*varians* Bösenberg et Strand ウズグモ，*incognitus* Dönitz et Strand マエカケウズグモ，*yesoensis* (Saito) エゾウズグモ，*sybotides* Bösenberg et Strand カタハリウズグモは *Octonoba* トウキョウウズグモ属（新称）に，1種，*prominens*

BÖSENBERG et STRAND マツガエウズグモは *Philoponella* ヒメウズグモ属（新称）にそれぞれ転属した。*Uloborus tokyoensis* KISHIDA は *Octonoba sinensis* (SIMON) のシノニムとした。

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